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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/028,130	12/20/2001	Christine J. Landry-Coltrain	82966LMB	2370

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Paul A. Leipold
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EXAMINER

SCHWARTZ, PAMELA R

ART UNIT	PAPER NUMBER
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1794

MAIL DATE	DELIVERY MODE
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09/05/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/028,130

Applicant(s)

LANDRY-COLTRAIN ET AL.

Examiner

Pamela R. Schwartz

Art Unit

1794

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 May 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 21-46 and 48-52 is/are pending in the application.
- 4a) Of the above claim(s) 52 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 21-46, 48-51 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-8508)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

1. The rejections under 35 USC 112 have been overcome. According to applicants' remarks, claim 29 was "amended to describe a bimodal system without reference to claim 21." There appears to be a typographical error in the first line of claim 29 because more of the first line is crossed out, but "claim 21" is not crossed out. Because applicants have stated in the remarks that the claim was rewritten without reference to claim 21, for examination, this claim will be treated as if rewritten in independent form with the first line reading "An inkjet recording element..."

2. Claims 21-28, 33-40, 44-46 and 48-51 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maeda et al. (Japanese Kokai Patent Application No. Hei 7[1995]-137432) for reasons of record and for reasons given below. The reference discloses an ink jet recording paper having an ink absorbing layer coated on a support, the ink absorbing layer (the top most layer) containing porous polyester resin particles ([0005] - indicates appropriate paragraph of prior art translation supplied by applicants). The volume average particle diameter is 0.5-100 microns. The examiner cannot patentably distinguish 0.5 microns from less than 0.5 micrometers. The examiner has considered applicants' showings but was unable to identify showings that demonstrated the criticality of particle size by varying only this feature of the recording medium [0006].

Maeda et al. use different terminology to recite particle size, but it appears that its ranges would overlap with those instantly claimed. Maeda et al. disclose a volume average particle size D that can be 0.5 microns. In addition, 70 wt % or more of the particles are in the size range of 0.5D-2.0D (i.e. 0.25 microns to 1 micron).

The reference discloses use of underlayers or specialty supports in order to obtain a smooth surface [0025]. Normally, smoothness and gloss are related characteristics. It is also well known in the art to form or treat the ink receiving layer in a way that maximizes gloss when a glossy surface is desired. For example, it is well known to calendar the surface of the medium to increase gloss. It would have been obvious to one of ordinary skill in the art to treat the surface of the medium of the reference in order to obtain a desired level of gloss. The support may be paper, synthetic paper, or synthetic resin film [0025]. Based upon this disclosure, it would have been obvious to one of ordinary skill in the art to form the support of either transparent or opaque resin since both are well known and commonly used in the art.

The reference discloses the formation characteristics of the polyester particles in paragraphs [0008]-[0013] including the use of fumaric or maleic acid in forming the polyester, inclusion of sulfonated monomers, number average molecular weight of the polyester, and the content of ionic groups. The particles may be in a binder including polyvinyl alcohol and other known binders [0023] and may be used in the instantly claimed proportions [0024]. Based upon the broad disclosure of binders, it would have been obvious to one of ordinary skill in the art to use any well known binder for ink receiving layers as the binder of the reference. Mr. Leon has stated in his first declaration that the acid number cannot be calculated without significant amounts of information concerning the polymerization reaction of the polyester resin. The acid number is not stated by the reference or calculable by the examiner. However, it would have been obvious to one of ordinary skill in the art to determine the acid number by

monitoring and determining the appropriate degree of progress of formation reaction of the particles of Maeda et al. in order to result in desired crosslinked particles.

Divinylbenzene may be used as a monomer to crosslink the polyester resin of the reference [0013].

Layer thicknesses are disclosed [0024] and it also would have been obvious to one of ordinary skill in this art to determine layer thicknesses and thickness of the medium overall in order to obtain necessary levels of ink absorption and required levels of machine feedability and handling characteristics of the media. Inclusion of one or more layers would have been obvious to one of ordinary skill in the art in order to control the overall thickness of the ink receiving layer. In addition, it is well known to include smaller particles in upper layers intended to achieve gloss and larger particles in lower layers intended primarily for ink absorption. It would have been obvious to one of ordinary skill in the art to include a gloss layer with smaller particles over an ink absorption layer including larger particles in order to achieve gloss in the coating of Maeda et al.

3. Claims 21-46, 48-51 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maeda et al. (Japanese Kokai Patent Application No. Hei 7[1995]-137432) for reasons set forth above and further in view of Henry et al (5,518,809) or Martinson et al (5,445,866). Henry et al. disclose improved feed facilitation when bimodal particles of narrow standard deviation are used in an image receptive layer (see col. 4, lines 26031). Martinson et al. also disclose improved feedability and anti-blocking properties when using bimodal particles of narrow standard deviation in an image recording layer

(see col. 7, lines 15-22). Based upon these disclosures, it would have been obvious to one of ordinary skill in the art to include bimodal particles in the medium of the primary reference in order to obtain improved feedability and anti-blocking properties. It is noted that the preferred ranges for standard deviation disclosed by the reference are narrower than those of instant claim 30. The examiner has reviewed applicants' specification but was unable to determine the criticality of a broader range in standard deviation. Without such information, it would have been considered obvious to one of ordinary skill in the art to optimize this recognized property of particles used in image recording layers.

Applicant's arguments filed May 8, 2008 have been fully considered but they are not persuasive. Applicants argue that Maeda et al. clearly teaches away by suggesting that smaller particles would yield less absorption. The meaning of this language is not at all clear, especially because the range disclosed by Maeda et al. includes average particle sizes below 1 micron and because the amounts of binder that are disclosed are up to 500 wt% of the particles [0024]. With large amounts of binder present in the layer, the absorption mechanism of the layer will be primarily due to swelling of the hydrophilic binder rather than due to the particles at all. In such a case, that the particles are of a size such that they have little or no effect on absorption would not render the layer non-absorbing. Absorption is primarily in the resin anyway.

Next, applicants argue that the reference says that the synthesis can be used to obtain particles in the range of 1-100 microns. What the reference actually says is that this method of synthesis makes it so that one "can freely control the volume-average particle size D in the range of 1-100 μm ." The reference does say that other size

particles cannot be formed. In fact, the reference says that the content of particles in the range of 0.5D to 2.0D will be 80% or greater. If D is 1 micron, particles of 0.5 microns and smaller will be produced by this method. Such particles are enabled and may be separated out by size after synthesis. Therefore, contrary to applicants' arguments, the reference is enabling for particles of less than 1 micron.

Applicants also argue that the term "about" is "notoriously indefinite." First, whether the term "about" is indefinite is determined on a case by case basis. The usage in the reference is definite. Even if this term were interpreted to mean "exactly 0.5-100 μm " which the examiner believes to be inconsistent with case law and overly restrictive, the examiner is unable to patentably distinguish the end point of the reference from "less than 0.5 μm ."

In addition, secondary art has been applied that suggests that it was well known to use particles with two or more modes, some modes of which are below 0.5 μm , with desirable results. Contrary to applicants' assertions, if there is a deficiency in reliance on the primary reference alone, it is remedied by the secondary art.

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Pamela Schwartz whose telephone number is (571) 272-1528.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Milton Cano, can be reached on (571) 272-1398. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

PRSchwartz
August 29, 2008

/Pamela R. Schwartz/

Primary Examiner, Art Unit 1794